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10/600,915	06/20/2003	Jonathan N. Warren	1863A1	5883

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PPG INDUSTRIES, INC.  
Intellectual Property Department  
One PPG Place  
Pittsburgh, PA 15272

EXAMINER
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DELCOTTO, GREGORY R

ART UNIT	PAPER NUMBER
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1751

DATE MAILED: 12/16/2004

Please find below and/or attached an Office communication concerning this application or proceeding.

## Office Action Summary

Application No.

10/600,915

Applicant(s)

WARREN ET AL.

Examiner

Gregory R. Del Cotto

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

### Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

### Status

- 1) ☐ Responsive to communication(s) filed on \_\_\_\_.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

### Disposition of Claims

- 4) ☒ Claim(s) 1-30 is/are pending in the application.
- 4a) Of the above claim(s) 14-30 is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-13 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_ is/are objected to.
- 8) ☒ Claim(s) 1-30 are subject to restriction and/or election requirement.

### Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

### Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some \* c) ☐ None of:
- ☐ Certified copies of the priority documents have been received.
  - ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_.
  - ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- \* See the attached detailed Office action for a list of the certified copies not received.

### Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☒ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)  
Paper No(s)/Mail Date 9-2003.
- 4) ☐ Interview Summary (PTO-413)  
Paper No(s)/Mail Date. \_\_\_\_.
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: \_\_\_\_.

### DETAILED ACTION

1. Claims 1-30 are pending.

#### ***Election/Restrictions***

Restriction to one of the following inventions is required under 35 U.S.C. 121:

- I. Claims 1-13, drawn to a concentrate composition for removing coating from surfaces, classified in class 510, subclass 201.
- II. Claims 14-30, drawn to a process for removing coatings from surfaces, classified in class 134, subclass 38.

The inventions are distinct, each from the other because of the following reasons:

Inventions of Group I and Group II are related as product and process of use.

The inventions can be shown to be distinct if either or both of the following can be shown: (1) the process for using the product as claimed can be practiced with another materially different product or (2) the product as claimed can be used in a materially different process of using that product (MPEP § 806.05(h)). In the instant case, the invention of Group I can be used in a materially different process such as in a method of cleaning laundry.

Because these inventions are distinct for the reasons given above and have acquired a separate status in the art as shown by their different classification, restriction for examination purposes as indicated is proper.

Because these inventions are distinct for the reasons given above and have acquired a separate status in the art because of their recognized divergent subject matter, restriction for examination purposes as indicated is proper.

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During a telephone conversation with Deborah Altman on 9/28/04, a provisional election was made with traverse to prosecute the invention of Group I, claims 1-13. Affirmation of this election must be made by applicant in replying to this Office action. Claims 14-30 are withdrawn from further consideration by the examiner, 37 CFR 1.142(b), as being drawn to a non-elected invention.

Applicant is reminded that upon the cancellation of claims to a non-elected invention, the inventorship must be amended in compliance with 37 CFR 1.48(b) if one or more of the currently named inventors is no longer an inventor of at least one claim remaining in the application. Any amendment of inventorship must be accompanied by a request under 37 CFR 1.48(b) and by the fee required under 37 CFR 1.17(i).

***Claim Rejections - 35 USC § 102***

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless --

(a) the invention was known or used by others in this country, or patented or described in a printed publication in this or a foreign country, before the invention thereof by the applicant for a patent.

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

(e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

(e) the invention was described in a patent granted on an application for patent by another filed in the United States before the invention thereof by the applicant for patent, or on an international application by another who has fulfilled the requirements of paragraphs (1), (2), and (4) of section 371(c) of this title before the invention thereof by the applicant for patent.

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The changes made to 35 U.S.C. 102(e) by the American Inventors Protection Act of 1999 (AIPA) and the Intellectual Property and High Technology Technical Amendments Act of 2002 do not apply when the reference is a U.S. patent resulting directly or indirectly from an international application filed before November 29, 2000. Therefore, the prior art date of the reference is determined under 35 U.S.C. 102(e) prior to the amendment by the AIPA (pre-AIPA 35 U.S.C. 102(e)).

***Claim Rejections - 35 USC § 103***

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

The factual inquiries set forth in *Graham v. John Deere Co.*, 383 U.S. 1, 148 USPQ 459 (1966), that are applied for establishing a background for determining obviousness under 35 U.S.C. 103(a) are summarized as follows:

1. Determining the scope and contents of the prior art.
2. Ascertaining the differences between the prior art and the claims at issue.
3. Resolving the level of ordinary skill in the pertinent art.
4. Considering objective evidence present in the application indicating obviousness or nonobviousness.

This application currently names joint inventors. In considering patentability of the claims under 35 U.S.C. 103(a), the examiner presumes that the subject matter of the various claims was commonly owned at the time any inventions covered therein were made absent any evidence to the contrary. Applicant is advised of the obligation under 37 CFR 1.56 to point out the inventor and invention dates of each claim that was

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not commonly owned at the time a later invention was made in order for the examiner to consider the applicability of 35 U.S.C. 103(c) and potential 35 U.S.C. 102(e), (f) or (g) prior art under 35 U.S.C. 103(a).

Claims 1, 4, 5, 8, and 9 are rejected under 35 U.S.C. 102(b) as being anticipated by Wakiya et al (US 2001/0021489).

Wakiya et al teach a photoresist stripping solution comprising a nitrogen-containing hydroxyl compound, a water-soluble organic solvent, water, and a specific benzotriazole compound. See Abstract. Suitable alkanolamines include N,N-dimethylethanolamine, monoethanolamine, triethanolamine, etc. See para. 18. Suitable water soluble solvents include N-methyl-2-pyrrolidone, diethylene glycol monobutyl ether, etc. See paras. 17-22. In addition to these components pyrrolidone surfactants such as N-hexyl-2-pyrrolidone, N-octyl-pyrrolidone, SURFADONE LP100, etc and acetylene alcohol/alkylene oxides such as Surfynol 104 may be used in the compositions. See paras. 38-49. These surfactant may be added at not more than 1% by weight. See para. 52. The surfactants may be added for enhancing the permeation of the solution and for further strippability of photoresist films and ashing residues such as modified photoresist films. See para. 38.

Specifically, Wakiya et al teach a composition containing 35% monoethanolamine, 15% DMSO, 45% water, and 5% Surfynol 440. Note that, the Examiner asserts that the composition as disclosed by Wakiya et al would inherently have the same VOC content as recited by the instant claims because Wakiya et al teach compositions containing the same components in the same proportions as recited

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by the instant claims. Wakiya et al disclose the claimed invention with sufficient specificity to constitute anticipation.

Accordingly, the teaching of Wakiya et al anticipate the material limitations of the instant claims.

Alternatively, even if the broad teachings of Wakiya et al are not sufficient to anticipate the material limitations of the instant claims, it would have been nonetheless obvious to one of ordinary skill in the art to arrive at the claimed VOC content of the composition in order to provide the optimum cleaning properties to the composition because Wakiya et al teach that the amounts of various solvents added to the composition may be varied.

Claims 3, 12, and 13 are rejected under 35 U.S.C. 103(a) as being unpatentable over Wakiya et al (US 2001/0021489).

Wakiya et al are relied upon as set forth above.

Note that, with respect to instant claim 3, it would have been obvious to one of ordinary skill in the art to dilute the cleaning composition taught by Wakiya et al with water to form a less concentrated cleaning composition because dilution of a cleaning composition is a conventional technique employed by those skilled in the art for economic considerations and conservation of the cleaning composition.

Wakiya et al does not teach, with sufficient specificity, a composition containing a specific surfactant, amine compound, water, and the other requisite components of the composition in the specific proportions as recited by the instant claims.

It would have been obvious to one of ordinary skill in the art, at the time the invention was made, to formulate a composition containing a specific surfactant, amine compound, water, and the other requisite components of the composition in the specific proportions as recited by the instant claims, with a reasonable expectation of success and similar results with respect to other disclosed components, because the broad teaching of Wakiya et al suggest a composition containing a specific surfactant, amine compound, water, and the other requisite components of the composition in the specific proportions as recited by the instant claims.

Claims 1, 3-6, 8, 9, 12, and 13 are rejected under 35 U.S.C. 103(a) as being unpatentable over Small et al (US 2002/0037820) in view of Wakiya et al (US 2001/0021489).

Small et al teach a composition for the stripping of photoresist and the cleaning of residues from substrates, and for silicon oxide etch, comprising from about 0.0 percent by weight to about 10 percent by weight of one or more fluoride compounds, from about 10 percent by weight to about 95% by weight of a sulfoxide or sulfone solvent, and from about 20% by weight to about 50% by weight of water. The composition may contain corrosion inhibitors, chelating agents, co-solvents, basic amine compounds, surfactant, acids, and bases. See Abstract. Suitable basic amine compounds include diethanolamine, triethanolamine, etc. See para. 37. Note that, the basic amine compound may be present in amounts from 0.1 to 15 percent by weight of the composition. See claim 1.

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Small et al do not specifically teach the use of a pyrrolidone or alkoxyated acetylenic compound, dimethylethanolamine, or a composition containing a pyrrolidone or alkoxyated acetylenic compound, an amine compound, water, and the other requisite components of the composition in the specific proportions as recited by the instant claims.

Wakiya et al are relied upon as set forth above.

It would have been obvious to one of ordinary skill in the art, at the time the invention was made, to use a surfactant such as a pyrrolidone or alkoxyated acetylenic surfactant in the stripping composition taught by Small et al, with a reasonable expectation of success, because Wakiya et al teach the use of a pyrrolidone or alkoxyated acetylenic surfactant in a similar stripping composition provide enhanced permeation of the solution and further strippability of photoresist films and ashing residues such as modified photoresist films, and further, Small et al teach the use of surfactants in general.

It would have been obvious to one of ordinary skill in the art, at the time the invention was made, to use dimethylethanolamine in the stripping composition taught by Small et al, with a reasonable expectation of success, because Wakiya et al teach the equivalence of dimethylethanolamine to triethanolamine in a similar stripping composition and, further, Small et al teach the use of triethanolamine.

It would have been obvious to one of ordinary skill in the art, at the time the invention was made, to formulate a composition containing a specific surfactant, amine compound, water, and the other requisite components of the composition in the specific

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proportions as recited by the instant claims, with a reasonable expectation of success and similar results with respect to other disclosed components, because the broad teaching of Small et al in combination with Wakiya et al suggest a composition containing a specific surfactant, amine compound, water, and the other requisite components of the composition in the specific proportions as recited by the instant claims.

Note that, the Examiner asserts that the composition as taught by Small et al in combination with Wakiya et al would have the same VOC properties as recited by instant claim 1 because Small et al in combination with Wakiya et al suggest compositions containing the same components in the same proportions as recited by the instant claims.

Additionally, with respect to instant claim 3, it would have been obvious to one of ordinary skill in the art to dilute the cleaning composition taught by Small et al in combination with Wakiya et al with water to form a less concentrated cleaning composition because dilution of a cleaning composition is a conventional technique employed by those skilled in the art for economic considerations and conservation of the cleaning composition.

Claims 1, 2, 5, 8, and 9 are rejected under 35 U.S.C. 102(b) as anticipated by or, in the alternative, under 35 U.S.C. 103(a) as obvious over Bae-Lee et al (US 5,703,032).

Bae-Lee et al teach a specific ternary enzyme stabilization system which unexpectedly enhances stability of a specific cellulase enzyme in isotropic liquid

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detergent compositions. See Abstract. Specifically, Bae-Lee et al teach a laundry detergent containing 67.8% base formulation, 8% sodium linear alkylbenzene sulfonate, 0.8% monoethanolamine, 1% Surfadone LP-100, water, etc. See column 11, lines 15-45. Note that, the Examiner asserts that the composition as disclosed by Bae-Lee et al would inherently have the same VOC content as recited by the instant claims because Bae-Lee et al teach compositions containing the same components in the same proportions as recited by the instant claims. Bae-Lee et al disclose the claimed invention with sufficient specificity to constitute anticipation.

Accordingly, the teaching of Bae-Lee et al anticipate the material limitations of the instant claims.

Alternatively, even if the broad teachings of Bae-Lee et al are not sufficient to anticipate the material limitations of the instant claims, it would have been nonetheless obvious to one of ordinary skill in the art to arrive at the claimed VOC content of the composition in order to provide the optimum cleaning properties to the composition because Bae-Lee et al teach that the amounts of various solvents added to the composition may be varied.

Claim 3 is rejected under 35 U.S.C. 103(a) as being unpatentable over Bae-Lee et al (US 5,703,032).

Bae-Lee is relied upon as set forth above.

Note that, with respect to instant claim 3, it would have been obvious to one of ordinary skill in the art to dilute the cleaning composition taught by Bae-Lee et al in with water to form a less concentrated cleaning composition because the addition of the

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laundry detergent to an automatic washer will dilute the cleaning composition to levels that fall within the scope of the instant claims.

Claims 1 and 3-13 are rejected under 35 U.S.C. 103(a) as being unpatentable over Doyel et al (US 6,130,195) in view of Wakiya et al (US 2001/0021489).

Doyel et al teach compositions and methods for cleaning, degreasing, stripping, solvating and/or removing residues and contaminants such as oils, grease, dirt, flux, photoresists, etc., from articles. The compositions contain at least one 4 carbon cyclic ether solvent with at least one 3-alkoxy 3-methyl butanol, as well as other optional solvents and additives. See Abstract. Suitable optional solvents include water, amines, alcohols, esters, ethers, ketones, etc. Additionally, the compositions may include buffering agents, surfactants, chelating agents, etc. See column 5, lines 15-25. Suitable amines include monoethanolamine, triethanolamine, etc. Suitable esters include methyl acetate, etc. Suitable ketones include acetone, methyl ethyl ketone, etc. See column 7, line 1 to column 9, line 15.

Doyel et al do not specifically teach the use of a pyrrolidone or alkoxyated acetylenic compound, dimethylethanolamine, or a composition containing a pyrrolidone or alkoxyated acetylenic compound, an amine compound, water, and the other requisite components of the composition in the specific proportions as recited by the instant claims.

Wakiya et al are relied upon as set forth above.

It would have been obvious to one of ordinary skill in the art, at the time the invention was made, to use a surfactant such as a pyrrolidone or alkoxyated acetylenic

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surfactant in the stripping composition taught by Doyel et al, with a reasonable expectation of success, because Wakiya et al teach the use of a pyrrolidone or alkoxylated acetylenic surfactant in a similar stripping composition provide enhanced permeation of the solution and further strippability of photoresist films and ashing residues such as modified photoresist films, and further, Small et al teach the use of surfactants in general.

It would have been obvious to one of ordinary skill in the art, at the time the invention was made, to use dimethylethanolamine in the stripping composition taught by Doyel et al, with a reasonable expectation of success, because Wakiya et al teach the equivalence of dimethylethanolamine to triethanolamine in a similar stripping composition and, further, Doyel et al teach the use of triethanolamine.

It would have been obvious to one of ordinary skill in the art, at the time the invention was made, to formulate a composition containing a specific surfactant, amine compound, water, and the other requisite components of the composition in the specific proportions as recited by the instant claims, with a reasonable expectation of success and similar results with respect to other disclosed components, because the broad teaching of Doyel et al in combination with Wakiya et al suggest a composition containing a specific surfactant, amine compound, water, and the other requisite components of the composition in the specific proportions as recited by the instant claims.

Note that, the Examiner asserts that the composition as taught by Doyel et al in combination with Wakiya et al would have the same VOC properties as recited by

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instant claim 1 because Doyel et al in combination with Wakiya et al suggest compositions containing the same components in the same proportions as recited by the instant claims.

Additionally, with respect to instant claim 3, it would have been obvious to one of ordinary skill in the art to dilute the cleaning composition taught by Doyel et al in combination with Wakiya et al with water to form a less concentrated cleaning composition because dilution of a cleaning composition is a conventional technique employed by those skilled in the art for economic considerations and conservation of the cleaning composition.

Claim 2 is rejected under 35 U.S.C. 103(a) as being unpatentable over Small et al (US 2002/0037820) in view of Wakiya et al (US 2001/0021489) or Doyel et al (US 6,130,195) in view of Wakiya et al (US 2001/0021489) as applied to claims 1, 3-6, 8, 9, 12, and 13 and claims 1 and 3-13 above, respectively, and further in view of Oberlander et al (US 6,368,421).

Small et al, Wakiya et al, and Doyel et al are relied upon as set forth above. However, none of the references teach the use of a hydrotropic sulfonate surfactant such as Dowfax in addition to the other requisite components of the composition as recited by the instant claims.

It would have been obvious to one of ordinary skill in the art, at the time the invention was made, to use a hydrotropic sulfonate surfactant such as Dowfax in the stripping compositions taught by Small et al or Doyel et al, with a reasonable expectation of success, because Oberlander teach the use of Dowfax in a similar

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stripping composition and further, Small et al or Doyel et al teach the use of surfactants in general.

### ***Conclusion***

2. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure. Remaining references cited but not relied upon are considered to be cumulative to or less pertinent than those relied upon or discussed above.


Applicant is reminded that any evidence to be presented in accordance with 37 CFR 1.131 or 1.132 should be submitted before final rejection in order to be considered timely.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Gregory R. Del Cotto whose telephone number is (571) 272-1312. The examiner can normally be reached on Mon. thru Fri. from 8:30 AM to 6:00 PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Yogendra Gupta can be reached on (571) 272-1316. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

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Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

  
Gregory R. Del Cotto  
Primary Examiner  
Art Unit 1751

GRD  
December 9, 2004